

**FACT SHEET FOR NPDES PERMIT
NO. WA-005227-2**

MILNE FRUIT PRODUCTS, INC.

GENERAL INFORMATION	
Permittee:	Ocean Spray Cranberries, Inc.
Facility Name and Address:	Milne Fruit Products, Inc. 804 Bennet Avenue Prosser, Washington 99350
Type of Facility:	Fruit Juice Processing
SIC Code:	2037
Discharge #001 Location:	Latitude: 46° 12' 19" N Longitude: 119° 46' 14"
Water Body Name and ID Number:	Waterbody Name: Prosser POTW / Yakima River Waterbody ID Number: WA-37-1010

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INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the State of Washington (State) on the basis of Chapter 90.48 RCW which defines the Department of Ecology's (Department) authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing/reissuing permits (Chapter 173-220 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued/reissued before discharge of wastewater to waters of the State is allowed/continued. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the proposed permit. One of the requirements (WAC 173-220-060) for issuing/reissuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the proposed permit is issued/reissued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the proposed permit and parties submitting comments will receive a copy of the Department's response. This fact sheet will not be revised. Comments and the resultant changes to the proposed permit will be summarized in Appendix D -- Response to Comments.

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

Industrial Process

Milne Fruit receives raw fruit (fresh and frozen) and processes it into concentrated juices and purees. Approximately 14,000 tons of concentrated juices and purees and 3,000 tons of juice blends are produced annually. The plant employs 85 employees and operates 24 hours a day, five days a week throughout the year.

The facility processes several types of fruit, including grape, guava, apple, cherry, cranberry, plum, blueberry, strawberry and red raspberry into juice and concentrate. There are numerous processes within the overall production line which generate wastewater. The majority of the wastewater volume is generated from cooling water and cleanup of equipment. Wastewaters are either collected in floor gutters or in pipes all of which lead to a collecting basin. Waters of evaporation are an additional source. Wastewater volumes average up to 320,000 gallons daily, with a maximum potential discharge of 420,000 gallons per day. Solids, primarily diatomaceous earth used in filtering, are collected in two settling basins. This process water waste stream is discharged to the Prosser Publicly Owned Treatment Works (POTW). A separate flow of cooling water is discharged to the Prosser storm sewer, which flows with other waters to the Yakima River.

Three 6000-gallon tanks in the plant yard provide wastewater storage capacity. These are seldom used except during grape harvest. Wastewaters collected in these tanks are transported to the Port of Sunnyside wastewater treatment facility for disposal.

Fresh fruit is received in the paved yard area adjacent to the plant. A system of three separate drains is employed in the yard area. One set of drains is used to collect the strongest wastes. These are routed into the plant to be treated with process wastes. Another set of drains is termed "first flush". These are employed to collect the initial stormwater that falls each season. The first flush drains collect to the first flush sump, located between the 45-degree storage and blending rooms. When the sump is emptied, water collected is transported to Milne's industrial pre-treatment system, and then on to the Prosser POTW. A third set of drains collects storm water after the yard areas have been flushed of waste. This stream is directed to the city storm sewer system. The flow to the storm sewer drains and first flush drains located in the alleyway, outside the boiler room and 45 degree room. The main storm drains in parking lots and behind the freezer that are not exposed to product are open to the storm sewer system at all times. However those are kept covered with drain blockers unless there is a significant rain event or snow melt.

Discharge Outfalls

Discharge 001 to the City of Prosser storm sewer, which drains to the Yakima River, consists of once through cooling water, with no additive chemicals, in quantities ranging to 29,000 gallons per day. The outfall pipe extends out over the water surface where it discharges near the edge of the river.

Discharge 002 Industrial wastewater flow is to the Prosser POTW.

PERMIT STATUS

The previous permit for this facility was issued on December 23, 1998. The previous permit placed effluent limitations on flow volume to the Prosser POTW, biochemical oxygen demand, total suspended solids and ammonia nitrogen. Modification of the permit occurred on January 27, 2000 which introduced seasonal limits to **S1 B. Discharge 002** - Industrial waste stream.

An application for permit renewal was submitted to the Department on October 31, 2003 and accepted on November 3, 2003.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility received its last inspection on August 28, 2003.

During the history of the previous permit, the Permittee has remained in substantial compliance based on Discharge Monitoring Reports (DMRs) submitted to the Department and inspections conducted by the Department with the exception of three instances of temperature exceedance for Outfall #1 on the 11th, 18th and 21st of March 2002. Two violations occurred at Outfall #2 one in June of 2003 for exceedance of the Monthly Average BOD limit and one for a slight exceedance of pH in June of 2002. All required report submittals have been met in full.

WASTEWATER CHARACTERIZATION

The proposed wastewater discharge is characterized for the following parameters:

**Table 1: Wastewater Characterization Discharge 001 to Yakima River
via City Storm Sewer**

Parameter	Concentration Measured
Flow	29,000 gallons per day – Maximum
Temperature	28 degrees C (82.4 degrees F.)
Biochemical Oxygen Demand (BOD5)	12 mg/L
Chemical Oxygen Demand	50 mg/L
Total Organic Carbon	1.4 mg/L
Total Suspended Solids	3 mg/L
Ammonia (as N)	<0.05 mg/L
pH (maximum)	8.6

The above measurements are the results from a single sampling event. They were reported in the permit application.

Milne believes that the relatively low concentrations of pollutants in the non-contact cooling water to be a result of biological activity in the outdoors cooling towers. The once-through cooling water is not treated with a biocide.

Tables 2 and 3 contain comparisons of the wastewater characterization of Outfall #002 to the previous November-August and September-October permit limits.

Table 2: Outfall #002 Discharge to the Prosser POTW Characterization from August 2001 through August 2003 Compared to the Previous Permit Limits. ¹

Parameter	November – August Limits		Cumulative Average	Lowest Monthly Average	Highest Monthly Average
	Monthly Avg. ²	Maximum Daily	2001-2003	2001-2003	2001-2003
Flow (MGD)	0.320	0.420	0.115	0.061	0.226
BOD (lbs/D)	1800	2420	897	395	2026 ³
TSS (lbs/D)	1600	3200	376	194	833
Ammonia-N (lbs/D)	-----	30 lbs.	0.183	0.05	0.75
pH	5.0 to 11.0 Std. Units		-----	5.07	11.04 ⁴

¹ Time frame averages are derived from August 2001 through August 2003 minus any September and October values.

² The “Average Monthly” effluent limitation means the highest average of daily discharges over a calendar month.

³ Violation occurring in the month of June 2003.

⁴ Violation occurring in the month of June 2002.

Table 3: Outfall #002 September-October Discharge to the Prosser POTW Characterization Compared to September-October Previous Permit Limits. ¹

Parameter	September-October Limits		Cumulative Average	Lowest Monthly Average	Highest Monthly Average
	Avg. Monthly ²	Maximum Daily	2001-2003	2001-2003	2001-2003
Flow (MGD)	0.385	0.485	0.164	0.011	0.371
BOD (lbs/D)	2500	3300	1597.3	560	2950 ³
TSS (lbs/D)	1600	3200	628.5	233	1293
Ammonia-N (lbs/D)	-----	30 lbs.	0.143	0.07	0.24
pH	5.0 to 11.0 Std. Units		-----	5.01	10.45

¹ Averages derived from the months of September and October in 2001, 2002 and 2003.

² The “Average Monthly” effluent limitation means the highest average of daily discharges over a calendar month.

³ Violation occurring in the month of October 2003.

During the 2001 to 2003 time frame, one Maximum Monthly violation of pH occurred as noted above. One Maximum Monthly violation of the BOD limit occurred as noted above and 7 Maximum Daily violations occurred during the two year period. These violations did not cause any upset at the receiving Prosser POTW. One Maximum Daily violation occurred for Total Suspended Solids with 4141 lbs/Day reported on March 25, 2003, however the March 2003

Monthly Average was 833 lbs/Day well below the limit of 1600 lbs/Day. There were no violations reported for either Ammonia-N or flow for the time period analyzed.

PROPOSED PERMIT LIMITATIONS

Federal and State regulations require that effluent limitations set forth in an NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Water Quality Standards for Surface Waters (Chapter 173-201A WAC), Water Quality Standards for Ground Waters (Chapter 173-200 WAC), Sediment Management Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). Each of these types of limits is described in more detail below, with the more stringent being chosen for each of the parameters of concern.

The limits in the proposed permit are based in part on information received in the proposed permit application. The effluent constituents detailed in the application were evaluated on a technology- and water-quality basis, and the applicable limits necessary to meet the rules and regulations of the State were then determined and placed into the proposed permit. The Department does not need to develop effluent limits for all of the effluent pollutants reported in the proposed permit's application, because some pollutants do not have a reasonable potential to cause a water quality violation. If significant changes occur in any pollutant (constituent), as described in 40 CFR 122.42(a), the Permittee is required to notify the Department, as soon as possible.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

Technology-based standards for this industry are addressed in 40 CFR 407 Subpart F: Canned and Preserved Fruit Category. BOD and TSS are listed as potential pollutants, but these parameters are not limited for existing discharges to POTW's.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

The State's Water Quality Standards for Surface Waters (Chapter 173-201A WAC) stipulate that waste discharge permits shall be conditioned such that the discharge will protect existing water quality and preserve the designated beneficial uses of the State's surface waters, WAC 173-201A-060. Surface water quality-based effluent limitations may be based either on an individual waste load allocation (WLA) or on a WLA developed during a basin-wide total maximum daily loading (TMDL) study.

Numerical Criteria for the Protection of Aquatic Life

"Numerical" water quality-based criteria are numerical values set forth in the State's Water Quality Standards for Surface Waters. They specify the maximum levels of pollutants allowed in receiving water while remaining protective of aquatic life. Numerical criteria are used along with the chemical and physical data of the wastewater and receiving water in order to derive the applicable effluent limits for the proposed permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, the water quality-based limitations must be used in the proposed permit.

Numerical Criteria for the Protection of Human Health

The EPA has promulgated 91 numerical water quality-based criteria for the protection of human health that are applicable to the State (EPA 1992). These criteria are designed to protect humans from cancer and other disease, and are primarily applicable to fish/shellfish consumption and drinking water from surface waters.

Narrative Criteria

In addition to numerical criteria, "narrative" water quality-based criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) surface waters in the State.

Antidegradation

The State's Antidegradation Policy requires that discharges to receiving water shall not further degrade the existing natural water quality of the water body. In cases where the natural conditions of receiving water are either of lower or higher quality than the criteria assigned, the natural conditions shall constitute the water quality-based criteria. More information concerning the State's Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if the natural ambient water quality is either higher or lower than the designated classification criteria given in the State's Water Quality Standards for Surface Waters. Therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by the proposed permit should not cause a loss of beneficial uses.

Description of the Receiving Water

The facility discharges to the City of Prosser POTW which discharges to the Yakima River, and additionally has a cooling water discharge to the city storm sewer which drains to the river, designated as a Class A receiving water in the vicinity of the outfall. Characteristic uses include the following: water supply (domestic, industrial, agricultural); stock watering; fish migration; fish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

Whole Effluent Toxicity

The State's Water Quality Standards for Surface Waters require that the Permittee's discharge not cause toxicity in the receiving water. Many toxic pollutants cannot be directly measured by commonly available detection methods, due to their extremely low concentrations. However, toxicity may be observed by exposing living organisms to the discharged wastewater during laboratory tests and directly measuring the organisms' response. Toxicity tests measure the aggregate toxicity of the whole effluent and, therefore, and this approach is called whole effluent toxicity (WET) testing. Some WET tests measure acute toxicity and other WET tests measure chronic toxicity.

Milne contracted Parametrix, Inc. to perform acute and chronic toxicity tests on its cooling water (001) discharge. A report submitted to the Department in July 1994 indicated no adverse effect on the test organism, *Pimephales promelas* (fathead minnow).

Toxicity caused by unidentified toxic pollutants is not expected in the Permittee's discharge when screened by the criteria given in the State's Whole Effluent Toxicity Testing and Limits (Chapter 173-205 WAC). Therefore, the proposed permit will require no WET testing. The Department may, however, require WET testing if it receives future information indicating that toxicity has the potential to be present in the Permittee's final effluent.

Human Health

The State's Water Quality Standards now include 91 numerical health-based criteria that must be considered in NPDES permits. The EPA in its National Toxics Rule promulgated these criteria for the State.

The Department has determined that the Permittee's discharge is unlikely to contain chemical pollutants regulated for human health. The Permittee's discharge will be re-evaluated for impacts to human health at the proposed permit's renewal.

A reasonable potential determination of the Permittee's discharge to cause an exceedance of the State's Water Quality Standards for Surface Waters was evaluated, as required by 40 CFR

122.44(d), using the procedures given in the *Technical Support Document for Water Quality-Based Toxics Control* (EPA/505/2-90-001) and the Department's *Permit Writer's Manual* (Ecology Publication 92-109, July, 1994). The determination indicated that the discharge has no reasonable potential to cause a violation of surface water quality standards, thus effluent limits based on human health are not warranted.

Sediment Quality

The Department has promulgated Sediment Management Standards (Chapter 173-204 WAC) to protect aquatic biota and human health. Those standards stipulate that the Department may require dischargers to evaluate the potential for their wastewater to cause a violation of the Sediment Management Standards.

The Department has determined through a review of the submitted final effluent characteristics that the Permittee's discharge has no reasonable potential to violate the Sediment Management Standards.

GROUND WATER QUALITY LIMITATIONS

The Permittee has no discharge to ground and, therefore, no limitations are required based on potential effects on ground water.

COMPARISON OF PROPOSED EFFLUENT LIMITS WITH THE PREVIOUS PERMIT

Outfall 001

There are no changes to the previous limitation proposed in this permit for Outfall 001. Although Ecology's 1998 list of impaired and threatened waterbodies – the 303(d) list – shows the lower Yakima River listed for temperature. A temperature TMDL is not expected in the forthcoming permit term. The discharge from Milne Fruit Inc. is similar in many respects to the cooling water discharge from Hi Country to the Yakima River at Selah. As part of the waste discharge permitting process at Hi Country, a study was performed to determine potential temperature impacts in the Yakima River. The study indicates that cooling to two degree Celsius above ground water temperatures occurs as the discharge, at temperatures up to 85 degrees, flows through the storm sewer. The temperature reduction calculation of cooling water is presented in Appendix D of this fact sheet.

Table 4: Outfall #001 Non-Contact Cooling Water Characterization Compared to the Previous and Unchanged Proposed Permit Limits

Parameter	Previous and Proposed Limits	Cumulative Average	Lowest Monthly Average	Highest Monthly Average
	Maximum Daily ¹	2001-2003	2001-2003	2001-2003
Flow (MGD)	Max. Daily 0.029	0.0045	0.0001	0.0161
Temperature	85 ° F	68	55	74
pH	6 to 9 standard units	9 Max 8.4 Min	7.2	8.99

¹ The Maximum Daily effluent limitation is defined as the highest allowable discharge during a calendar year.

² pH values depicted are the actual minimum and maximum values reported because pH is on a logarithmic scale.

During the two year period analyzed there were no violations of the flow limit or violations of the pH limit.

There occurred three violations of the temperature limit on the 11th, 18th, and 21st of March 2002 with a reported effluent temperature of 87 ° F.

Outfall 002

The previous permit was issued on December 23, 1998 and contained effluent limits, which are given in the following table as 'previous' limits. A new Industrial Wastewater User Contract between the City of Prosser POTW and Milne Fruit Products, Inc. was executed on December 23, 2003. The effluent limitations in that contract will constitute the enforceable limits of this permit. Discharge limits to the Prosser POTW are removed from this permit and are inserted into Appendix A of the O & M Manual. The contract will constitute Appendix A of the O&M Manual. In the event the contract is renegotiated, any revisions to the Contract will be included in an O&M update to Appendix A which will then contain the enforceable limits of the permit. This was done because the Permittee's contract with the City is occasionally renegotiated and contract limits revised. The Department lacks the resources to rewrite the permit each time the contract limits are revised.

Outfall 002 Current Limitations to Prosser POTW

Parameter	Previous Limits	
	Monthly Average	Daily Maximum
Flow Volume	0.32 mgd	0.42 mgd
Biochemical Oxygen Demand	1800 lbs/day	2420 lbs/day
Ammonia Nitrogen*	-----	30 lbs/day
Total Suspended Solids	3200 lbs/day	6400 lbs/day
pH		>5.0 <11.0

*Analyses of ammonia-N by the Permittee have consistently shown loading far less than the permitted level throughout the past three years. Loadings are consistently below 1.0 lbs/day, and usually indicate only a small percentage of this maximum value. Monitoring of ammonia-N will continue once monthly the proposed permit.

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring schedule is detailed in the proposed permit under Condition S2. Specified monitoring frequencies take into account the quantity and variability of the Permittee's discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

LAB ACCREDITATION

With the exception of certain parameters the proposed permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The requirements of Condition S3. are based on the Department's authority to specify any appropriate reporting and recordkeeping requirements in order to prevent and control waste discharges to the waters of the State (WAC 273-220-210).

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The Permittee has developed a Spill Plan for preventing the accidental release of pollutants to State waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit such updates to the Department.

SOLID WASTE

The Permittee applies a minor amount of agricultural waste as fertilizer to farmlands in Benton County as permitted by the Benton-Franklin District Health Department. The bulk of Milne's biosolids is applied to Natural Selection Farms properties near Sunnyside in Yakima County.

GENERAL CONDITIONS

General Conditions are based directly on State and Federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

Condition G1. requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2. requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the proposed permit. Condition G3. specifies conditions for modifying, suspending or terminating the proposed permit. Condition G4. requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the proposed permit's application. Condition G5. requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6. prohibits the Permittee from using the proposed permit as a basis for violating any laws, statutes or regulations. Conditions G7. and G8. relate to renewal and transfer of the proposed permit. Condition G9. requires the Permittee to control its production in order to maintain compliance with its proposed permit. Condition G10. prohibits the reintroduction of removed substances back into the effluent. Condition G11. states that the Department will modify or revoke and reissue the proposed permit to conform to more stringent

toxic effluent standards or prohibitions. Condition G12. incorporates by reference all other requirements of 40 CFR 122.41 and 122.42. Condition G13. notifies the Permittee that the Department may establish additional monitoring requirements. Condition G14. requires the payment of permit fees. Condition G15. describes the penalties for violating conditions of the proposed permit.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify the proposed permit to impose numerical limitations, if necessary to meet the State's Water Quality Standards for Surface Waters, Sediment Management Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify the proposed permit as a result of new or amended State or Federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

The proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State. The Department proposes that the proposed permit be issued for 5 years.

REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.
1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.
1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. EPA Office of Water, Washington, D.C.
1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.
1983. Water Quality Standards Handbook. EPA Office of Water, Washington, D.C.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

1994. Permit Writer's Manual. Publication Number 92-109

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(E2). (Cited in EPA 1985 op.cit.)

APPENDIX A -- PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

The Department will publish a Public Notice of Draft (PNOD) on February 18, 2004, in the Prosser Record Bulletin to inform the public that an application, draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator
Department of Ecology
Central Regional Office
15 West Yakima Avenue, Suite 200
Yakima, WA 98902

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and the reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, 509/457-7105, or by writing to the address listed above.

The proposed permit and fact sheet were written by Richard A. Marcley.

APPENDIX B--GLOSSARY

Acute Toxicity -- The lethal effect of a compound on a living organism that occurs within a short period of time, usually within 48 to 96 hours.

AKART -- An acronym used in State regulations which means "all known, available, and reasonable methods of prevention, control, and treatment".

Ambient Water Quality -- The existing environmental condition of the water in a receiving waterbody.

Ammonia -- Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also may increase the amount of chlorine needed to disinfect wastewater.

Best Management Practices (BMPs) -- Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅ -- Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent through the rate of utilization of oxygen by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen (DO) in a receiving water after effluent is discharged. Stress caused by reduced DO levels makes organisms less competitive and less able to sustain their species in the immediate aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass -- The intentional diversion of waste streams from any portion of a treatment facility.

Chlorine -- Chlorine is used to disinfect wastewater of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity -- The effect of a compound on a living organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters for determining the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA) -- The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection -Without Sampling -- A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its wastewater discharge permit or with applicable statutes and regulations.

Compliance Inspection -With Sampling -- A site visit to accomplish, at a minimum, the purpose of a Compliance Inspection - Without Sampling along with the addition of sampling and analysis for all parameters limited by a wastewater discharge permit in order to ascertain compliance with those limits, including all applicable percent removal requirements. Additional sampling may be conducted during the compliance inspection.

Composite Sample -- A mixture of individual grab samples collected at the same sampling point at different moments during a distinct period of time, typically 24-hours. The sample can be collected either by continuous sampling or by mixing discrete samples, and may be a "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

Construction Activity -- Clearing, grading, excavation or any other activity which disturbs the surface of the land. Such other activities include: road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Critical Condition -- The time of the year when the flow within the receiving water is low, typically at when 7Q10 would occur. At such time the ability of the receiving water to dilute effluent is significantly reduced and, therefore, waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. Other parameters are typically chosen at their 90th percentile during the same time of year as the 7Q10, or at their 95th percentile when collected year-round.

Daily Maximum Discharge Limitation -- The highest allowable Daily Discharge Value which the Permittee may discharge to the receiving water, without violating the issued NPDES permit.

Daily Discharge Value -- The average of the discharge measurements for an effluent pollutant parameter obtained over a single calendar day, or any 24-hour period that reasonably represents the calendar day for purposes of sampling. It is calculated as the sum of all discharge values measured during a calendar day, divided by the number of discharge values measured during that same calendar day.

Dilution Factor -- A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

Engineering Report -- A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater treatment facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria -- Fecal coliform bacteria are used as indicator organisms of pathogenic bacteria in the effluent which are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfection with chemicals such as chlorine or ozone. In a water body, the presence of high numbers of fecal coliform bacteria can indicate the recent release of untreated wastewater, a break-down of disinfection processes, and/or the presence of warm-blooded animal feces.

Grab Sample -- A single sample or measurement taken at a specific time or over as short a period of time as is feasible.

Industrial Wastewater -- Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Major Facility -- A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Method Detection Level (MDL) -- The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero, and is determined from analysis of a sample in a given matrix containing the analyte.

Minor Facility -- A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone -- An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in State regulations (Chapter 173-201A WAC).

Monthly Average Discharge Limitation -- The highest allowable Monthly Average Discharge Value which the Permittee may discharge into the receiving water, without violating the issued NPDES permit.

Monthly Average Discharge Value -- The average of the Daily Discharge Values for an effluent pollutant parameter obtained during a calendar month. It is calculated as the sum of all Daily Discharge Values measured during a calendar month, divided by the number of Daily Discharge Values measured during that same calendar month.

National Pollutant Discharge Elimination System (NPDES) -- The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. The State is one of many which have been delegated by EPA the authority to issue wastewater discharge permits. NPDES permits issued by State permit writers are joint NPDES/State permits issued under both State and Federal laws.

pH -- The pH of a liquid is a measure of its acidity or alkalinity. A pH of 7.0 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL) -- A calculated value typically equal to five times the MDL (method detection level).

State Waters -- Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the State. Synonymous with "waters of the State".

Storm water -- That portion of precipitation which does not naturally percolate into the ground or evaporate, but rather flows via overland passage, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit -- A permit limit on the concentration or mass of an effluent pollutant parameter which is based on the ability of a treatment method, or a set of treatment methods, to reduce the specific pollutant from the influent waste stream and thereby preventing its discharge into the receiving water.

Total Suspended Solids (TSS) -- Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Upset -- An exceptional incident in which there is unintentional and temporary noncompliance with permit effluent limits because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit -- A permit limit on the concentration or mass of an effluent pollutant parameter that is intended to prevent that parameter from exceeding its water quality-based criterion after it is discharged into a receiving water.

APPENDIX C -- TECHNICAL CALCULATIONS

COOLING WATER DISCHARGE

Milne has a discharge from its cooling towers in amounts that do not exceed 29,000 gallons per day. The flow is discharged to the City of Prosser storm sewer, and flows through a 16-inch concrete pipe, co-mingling with cooling water discharged from Twin City Foods before flowing about 500 feet to the Yakima River. The slope of the storm pipe is about 1/8 inch per foot.

This discharge is similar in many respects to a cooling water discharge from Hi Country to the Yakima River at Selah. As part of a recent waste discharge permitting process at Hi Country, a study was performed to determine potential temperature impacts in the Yakima River.

Measurements of temperature versus distance were made along the Hi Country discharge pipe. Temperature data were converted to logarithmic values and plotted against distance along the pipe.

Temperature at various distances from the source are calculated from the equation below.

$$\ln(T_t - T_o) = -\text{slope} \times (\text{distance}) + \ln(T_o - T_f)$$

T_t = Temperature at time when water has flowed d, distance

T_f = Temperature beneath surface (ground water) or final temperature of water in pipe after infinite flow

T_o = Temperature at beginning of model section or zero distance

The above relationship developed from Hi Country data was applied to the Milne discharge. The calculated temperature of the discharge at the river was 2.017 degrees C above groundwater temperature.

APPENDIX D -- RESPONSE TO COMMENTS

Comments from City of Prosser

Comment:

The City of Prosser POTW accepts wastewater from Milne Fruit Products, Inc., and the Industrial Wastewater User Contract between the City and Milne Fruit Product, Inc., forms the permit limits found in the draft permit. We reviewed the referenced NPDES Permit with respect to the discharges to our system and have the following comments:

- Section S1.B. Outfall 002 – Discharge to Prosser WWTP, page 5: In the last sentence at the bottom of the page, the pH limits should be changed to read "...within the range of 5.0 to 11.0 at all times" to match the terms of the Industrial Wastewater User Contract.

Departmental Response:

Wording is changed according to City of Prosser's request.

Comment:

- Section S2.A Monitoring Schedule, page 6: The City of Prosser monitors Milne wastewater at Lift Station No. 2 for compliance with the terms of the Industrial Wastewater User Contract. Therefore, the sampling point for Outfall 002, Wastewater Effluent, should be changed to the Lift Station No. 2 wet well. Flows are measured using a magnetic flow meter in the discharge pipe from the lift station, so the flow sample point should also be changed. For consistency with other monitoring, the minimum sampling frequency for TSS (mg/l and lbs/day) and pH should be changed to "weekly", and the pH sample type should be changed to "24-hour composite."

Departmental Response:

Wording is changed according to City of Prosser's request.